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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,358	04/06/2005	Takenobu Sunagawa	Q86665	7769

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EXAMINER

BERNSHTEYN, MICHAEL

ART UNIT PAPER NUMBER

1713

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/530,358	Applicant(s) SUNAGAWA ET AL.	
	Examiner Michael Bernshteyn	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 14, 2006 has been entered.
2. This Office Action follows a response filed on July 14, 2006. Claims 2 and 5 have been amended; no claims have been added, claim 1 has been cancelled.
3. Claims 2-5 are pending.

### ***Claim Rejections - 35 USC § 102***

4. The test of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
5. Claims 2-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueno et al. (U. S. Patent Application Publication 2002/0022695).

Ueno discloses a polymerizable unsaturated polyester resin composition, wherein a polyester skeleton derived from collected PET is introduced, for effective utilization of waste PET such as a PET bottle, which has recently been considered a large obstacle to environmental protection. The polymerizable unsaturated polyester resin composition comprises a straight-chain polyester (A) having a (meth)acryloyl

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group at both ends of molecules and an ethylenically unsaturated monomer (B), said straight-chain polyester (A) having a (meth)acryloyl group at both ends of molecules being obtained by reacting: (a) a terephthalate oligomer having a hydroxyl group at both ends of molecules resulted from the alcoholysis reaction of collected waste polyethylene terephthalate by an aliphatic glycol having an ether bond, (b) a dibasic acid containing an aromatic dibasic acid as a principal component, and (c) a glycidyl meth)acrylate (abstract).

With regard to the limitations of claims 2 and 5, Ueno discloses in Synthesis Example 1 that the reaction continued at the same temperature for 6.5 hours, and 0.514 g of toluhydroquinone was added when a 70% **styrene** (*which is readable as component (c) in instant claim 1*) solution exhibited an acid value of 23.5 and a Gardner viscosity of U-V', and after cooling to 130<sup>0</sup>C, 379.7 g (2.67 mol) of **glycidyl methacrylate** (*which is readable as component (a) in instant claim 1*) was charged in an atmosphere of nitrogen/air=1:1. The reaction continued at 130<sup>0</sup>C for two hours, and after cooling to 90<sup>0</sup>C when the solid acid value of a 75% **methyl methacrylate** solution reached 2.0, 1568.4 g of **MMA** (*which is readable as component (b) in instant claim 1*), 0.087 g of 5% copper naphthenate and 0.291 g of t-butyl catechol were added to obtain a liquid resin having a non-volatile content of 75% (page 5, [0055]). All of the above components are in the amount within claimed range.

The number-average molecular weight of the straight-chain polyester (A) having (meth)acryloyl groups at both ends of molecules is preferably from **1500 to 3000** (page 2, [0026]) which is within claimed range.

Ueno discloses that a mixing weight ratio [(A+C):B] of the polymer component (A+C) of the straight-chain polyester (A) having a (meth)acryloyl group at both ends of molecules and the air-drying unsaturated polymer to the ethylenically unsaturated monomer (B) is preferably from **20-80%:80-20%** by weight (page 3, [0036]).

Therefore, all the limitations of instant claims 2 and 5 are expressly met by Ueno.

With regard to the limitations of claims 3 and 4, Ueno discloses that the polymerizable polyester resin composition is used in applications such as patty, sealing material, coating material, waterproof material, **molding material**, coating material, patty, sealing material, lining material, **waterproof material**, road marking material, and paving material (page 4, [0049]-[0052]).

### ***Response to Arguments***

6. Applicants traverse the rejection under 35 U.S.C. § 102(e) of claims 2-5 as being anticipated by Ueno et al. (U. S. Patent Application Publication 2002/0022695).

Applicant's arguments have been fully considered but they are not persuasive.

7. Applicants contend that polymerizable unsaturated resin composition of Ueno et al is apparently a thermosetting polyester resin composition based on the disclosure thereof. Specifically, Ueno et al. describes in paragraph [0002] that 'more particular, the present invention relates to a polymerizable unsaturated resin composition ... and also has an excellent low-temperature cure property, ... which is capable of curing completely even in the presence of air,..." Further paragraph [0026] of Ueno et al. describes that "when the molecular weight is lower than 1500, the tackiness is imparted

to resulting cured product and ... On the other hand, when the molecular weight is higher than 3000, the curing time increases and the productivity is lowered." Moreover, paragraph [0036] of Ueno et al. describes that "when the content of (A+C) is smaller than 20% by weight, the curing property of the resin cured product becomes inferior."

All of the above mentioned passages of Ueno et al. describe and relate to the characteristics of a thermosetting resin composition (pages 2 and 3).

8. It is worth to mention that in the above recited paragraphs [0002] and [0026] Ueno et al. discloses that polyethylene terephthalate (PET) is **capable of curing**, but it does not concern the final product. Since Ueno's composition is essentially the same as instantly claimed, and comprises the identical chemical ingredients, as discussed above, and is used for the same purpose for providing a thermoplastic polyester resin composition, it is reasonable to believe that Ueno's composition is thermoplastic like the instantly claimed composition because they both are substantially identical.

### ***Conclusion***

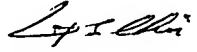
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Examiner  
Art Unit 1713

MB  
09/22/2006

  
LING-SUI CHOI  
PRIMARY EXAMINER